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A Preliminary List of the Acarina of Iowa

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A PRELIMINARY LIST OF THE ACARINA OF IOWA

ALBERT HARTZELL.

In 1886, Professor Herbert Osborn and Professor L. M. Underwood published, in the "Canadian Entomologist," a preliminary list of the Acarina of North America. This list included 99 species in 28 genera. In 1907, Nathan Banks published his "Catalog of the Acarina, or Mites, of the United States," which includes about 450 species in 133 genera. This number probably represents less than one-third of our mite population.

The mites of New York, Ontario, Virginia and Illinois have been studied to a considerable extent, but large areas still remain to be covered and very few local lists have been published. In fact so little is known of the distribution of the various species that Banks omits all locality reference in his catalog. The mite population in the vicinity of Ames has been quite well covered by Dr. H. E. Ewing, but records from other places in the state are few and scattered.

In the preparation of this paper complete data have been given wherever obtainable. This includes a reference to the original description, locality, date, habitat and name of the collector. Collections made by Dr. H. E. Ewing and Professor J. E. Guthrie are accredited H. E. E. and J. E. G. respectively. The Zoological Record has been used as a standard for abbreviation of publications.

Dr. H. E. Ewing has kindly placed at the writer's disposal his private collection, which has been invaluable in the preparation of this paper. Dr. W. W. Dimock of the Veterinary Division, Iowa State College, also has contributed much in making this paper more useful by furnishing several important records of parasitic species.

Family EUPODIDÆ.

RHAGIDIA Thorell.

R. pallida Banks, Tr. Amer. ent. Soc., vol. XXI, p. 222, (1894).
From Ames, March 3, 1910; under bark of log; by H. E. E.

LINOPODES Koch.

L. antennaepes Banks, Tr. Amer. ent. Soc., vol. XXI, p. 221, (1894).
From Ames, September 30, 1909; under a log; by H. E. E.

EUPODES Koch.

E. variabilis Banks, Tr. Amer. ent. Soc., vol. XXI, p. 221. (1894).
From Ames, September 18, 1909; under an old piece of wood; by H. E. E. From Grinnell, April 30, 1910; under a board in damp place;

by J. E. G.

TYDEUS Koch.

T. coccophagus Ewing, Psyche, vol. XVIII, p. 38, (1911). From Ames, August, 1910. (Species found in abundance attacking oyster-shell scale.) August 17, 1910; from linden leaf; by H. E. E.

Family BDELLIDÆ.

BDELLA Latreille.

B. cardinalis Banks, Tr. Amer. ent. Soc., XXI, p. 219, (1894). From Ames, September 10, 1909; under rotten bark; by H. E. E.

B. peregrina Banks, var. *iowaensis* Ewing, Bull. Amer. Mus. Nat. Hist., vol. XXXVII, p. 150, (1917). From Ames; rare; under stick in woods; by J. E. G.

B. virgata Ewing, Univ. Ill. Bull., vol. VII, p. 70, (1909). From Ames, September 14, 1909; under bark of European elm; by H. E. E.

SCIRUS Hermann.

S. quadripilis Banks, Tr. Amer. ent. Soc., vol. XXI, p. 220, (1894). From Ames, October 26, 1909; under old piece of wood; by H. E. E.

EUPALUS Koch.

E. parvus Ewing, Bull. Amer. Mus. Nat. Hist., vol. XXXVII, p. 151, (1917). From Ames. Mentioned by R. L. Webster and H. E. Ewing in Psyche, vol. XIX, pp. 121-134. Found on *Lepidosaphes ulmi* Linn. An enemy of oyster shell scale, but not numerous at Ames; by T. M. McCall.

Family CHEYLETIDÆ.

MYOBIA Heyden.

M. musculi Schrank, Enum. Ins. Austr., p. 301, (1781). Mégnin. J. Anat. Physiol., vol. XIV, p. 432, (1878). From Ames; common on mice; by H. Osborn.

Family ANYSTIDÆ.

ANYSTIS Heyden.

A. agilis Banks, Tr. Amer. ent. Soc., vol. XXI, p. 211, (1894). From Ames, September 14, 1909; under bark of wild cherry; by H. E. E.

Family TETRANYCHIDÆ.

TETRANYCHUS Dufour.

T. erythreus Ewing, Bull. Amer. Mus. Nat. Hist., vol. XXXVII, p. 152, (1917). From Ames, September 27, 1909; by H. E. E.

T. telarius Linn., Fauna Suecia, p. 481, (1761). The common red spider or spider mite. From Ames and Des Moines. Reported from Iowa on the following plants: tomato, potato, apple, alfalfa, evergreens, chrysanthemum.

Family ERYTHRÆIDÆ.

ACHOROLOPHUS Berlese.

A. ignotus (Oudemans), Ent. Ber., vol. I, p. 92, (1903). From Ames, July 22, 1910; on a larva of *Melanoplus divittatus*; by H. E. E.

ERYTHRÆUS Latreille.

E. gracilipes (Banks), P. ent. Soc. Washington. From Ames, October 5, 1909; under old piece of wood; by H. E. E.

E. gracilipes (Banks), P. ent. Soc. Washington. From Ames, October

From Ames, August 12, 1912; by R. L. Webster. October 3, 1909; on the collector's clothing; by H. E. E.

FESSIONIA Heyden.

F. longilinealis (Ewing.), Tr. Acad. Sci., St. Louis, vol. XVIII, p. 61, (1909). From Ames, June 25, 19—; on *Oribata latineisa* Ewing; under board; by J. E. G.

Family TROMBIDIIDÆ.

EUTROMBIDIUM Verdun.

E. corticis Ewing, Bull. Amer. Mus. Nat. Hist., vol. XXXVII, pp. 155-156, (1917). From Ames, October 14, 1909; under bark; rare; by H. E. E.

E. trigonum Hermann, Mém. Apt., p. 26, (1804). The locust mite. From Ames, October 9, 1917; commonly found on *Melanoplus femurrubrum*, *M. differentialis* and also on *Spharageon boili* Scud; by the writer. Also the following: Ames, August 21, 24, 26 and 30, 1910; on *M. differentialis*; by H. E. E.

MICROTROMBIDIUM Haller.

M. muscarum Riley, First Rept. U. S. Ent. Com., p. 306, (1878). The house fly chigger. From Ames, August 30, 1910; by H. E. E. Common on house fly.

ENEMOTHROMBIDIUM Berlese.

E. ovalis Ewing, Bull. Amer. Nat. Hist., vol. XXXVII, p. 156, (1917). From Ames; running over ground; by H. E. E.

ALLOTHROMBIDIUM Berlese.

A. pulvinus Ewing, Bull. Amer. Nat. Hist., vol. XXXVII, p. 157, (1917). From Dallas Center, April, 1917; on apple tree; by W. F. Chaney.

Family GAMASIDÆ.

DERMANYSSUS Dugès.

D. gallinae (Redi), Esper. Int. Insetti, pl. II, (1688). Mégnin, Parasit., p. 115, (1880). The chicken mite. From Ames, summer, 1910. The Auk, vol. XXVII, No. 3, July, p. 337, (1911); August 20, 1910; on chicken, originally from English sparrow nest; by H. E. E.

SEIUS Koch.

S. hirsutus Koch, Crust. Myr. Arach. (1835). From Ames, October 3, 1909; under old piece of wood; by H. E. E.

GAMASUS Latreille.

G. predator Banks, P. Ent. Soc. Washington, vol. XII, p. 5, (1910). From Ames, October 14, 1909; under old piece of wood; by H. E. E.

LIROASPIS Banks.

L. americana Banks, Can. Ent., p. 174, (1902). From Ames, October 26, 1909, and September 11, 1910; under old piece of wood; by H. E. E.

Family ARGASIDÆ.

ARGAS Latreille.

A. miniatus Koch, Arch. Naturg., vol. X, p. 219, (1844). The chicken tick. Reported from Iowa; no locality given; in U. S. Dept. Agr. Bur. Ent. Bull. 106, p. 47.

ORNITHODOROS Koch.

O. megnini Dugès, La Naturaleza Mexicana, vol. VI, p. 197, (1885). The spinose ear tick. Reported from Iowa in U. S. Dept. Agr. Year Book for 1910, p. 222; from Davenport and Ames in U. S. Dept. Agr. Bur. Ent. Tech. Ser. No. 15, p. 17; from Iowa in U. S. Dept. Agr. Bur. Ent. Bull. 106, p. 62.

Family IXODIDÆ.

IXODES Latreille.

I. cookei Packard, 1st Rept. Peabody Acad. Science, p. 67, (1869). Reported from Iowa by Banks in U. S. Dept. Agr. Bur. Ent. Tech. Ser. No. 15, p. 29, (1908).

I. scapularis Say, J. Ac. Philad., vol. II, p. 78, (1821). The black legged tick. Reported from Iowa in U. S. Dept. Agr. Bur. Ent. Bull. 106, p. 77.

Family ORIBATIDÆ.

PELOPS Koch.

P. laticuspidatus Ewing, Jour. New York Ent. Soc., vol. XVII, p. 117. (1909). From Ames, September 14, 1909; under bark of European elm; by H. E. E.

ORIBATA Latreille.

O. emarginata Banks, Tr. Amer. ent. Soc., vol. XXII, p. 7, (1895). From Ames, September 14, 1909; under old piece of wood; September 16, 1909; under bark of *Acer saccharinum*; by H. E. E.

O. depressa Banks, Tr. Amer. ent. Soc., vol. XXII, p. 6, (1895). From Ames, Sept. 14, 1909; under bark of wild cherry; by H. E. E.

O. nigra Ewing, Jour. New York Ent. Soc., vol. XVII, p. 119, (1909). From Ames, May 3, 1910; under stone; by J. E. G.

O. texana Banks, Jour. Acad. Philad., p. 494, (1906). From Ames, October 14, 1909; under old piece of wood; by H. E. E.

SPHÆROZETES Berlese.

S. latincisa, (Ewing), Jour. New York Ent. Soc., vol. XVII, p. 121.. (1909). From Ames, January 25, under board; host of *Samaris longidlinealis* Ewing; by J. E. G.

PROTORIBATES Berlese.

P. maximus Ewing, Psyche, vol. XV, p. 107, (1908). From Ames, October 14, 1909; under bark; by H. E. E.

CERATOZETES Berlese.

C. virginica (Banks), Jour. Acad. Philad., p. 493, (1906). From Ames, September 19, 1909; under old piece of wood; by H. E. E.

PELORIBATES Berlese.

P. banksi (Ewing), Bull. Illinois Lab., vol. VII, p. 364, (1909). From Ames, September 23, 1909; under bark of *Quercus* sp.; by H. E. E.

P. iowaensis Ewing, Bull. Amer. Mus. Nat. Hist., vol. XXXVII, p. 160, (1917). From Ames; an old piece of wood; by H. E. E.

P. serratoseta Ewing, Psyche, vol. XIV, p. 114, (1907). From Ames, September 18, 1909; under old piece of wood; by H. E. E.

ORIBATELLA Banks.

O. achipteroides Ewing, var. *australis* Ewing, Bull. Amer. Mus. Nat. Hist., vol. XXXVII, p. 160, (1917). From Ames; under stone; by H. E. E. Type collected by J. E. Guthrie at Red Wing, Minnesota.

O. quadridentata Banks, Tr. Amer. ent. Soc., vol. XXII, p. 8, (1895). From Ames, September 11, 1909; under old piece of wood; by H. E. E.

LUCCOPPIA Berlese.

L. pilosus (Banks), Tr. Amer. ent. Soc., vol. XXII, p. 11, (1895). From Ames, September 23, 1909; under bark of shell-bark hickory; by H. E. E.

TEGEOCRANUS Nicolet.

T. subniger Ewing, Bull. Amer. Mus. Nat. Hist., vol. XXXVII, p. 163, (1917). From Ames, October 7, 1909; under old piece of wood on the ground; by H. E. E.

DAMÆUS Koch.

D. brevitarsus Ewing, Bull. Amer. Mus. Nat. Hist., vol. XXXVII, p. 164, (1917). From Ames; under old piece of wood; by H. E. E.

D. sufflexus Michael, Jour. Royal Micr. Soc., vol. V, p. 394, (1885). From Ames, September 11, 1909; under old piece of wood; by H. E. E.

DAMEOSOMA Berlese.

D. sculptilis Warb. and Pear., Proc. zool. Soc. London, vol. II, p. 564, (1905). From Ames, October 14, 1909; under old piece of wood; by H. E. E.

DAMEOLOS Paole.

D. apicolis Banks, Tr. Amer. ent. Soc., vol. XXII, p. 13, (1895). From Ames, October 26, 1909; under old piece of wood; by H. E. E.

ORIPODA Pergande and Banks.

O. elongata Pergande and Banks, Ann. entom. Soc. Amer., vol. III, p. 209, (1910). From Ames, April 16, 1894; in gall on elm twig.

Family HYPOCHTHONIDÆ.

HYPOCHTHONIUS Koch.

H. rufus Koch, Crust. Myr. Arach., fasc. 3, fig. 19, (1835). From Ames, June 17, 1913; under a log in moist place; by J. E. G.

Family HAPLODERMATIDÆ.

GINGLYMACARUS Ewing.

G. sphaerula (Banks), Tr. Amer. ent. Soc., vol. XXII, p. 16, (1895). From Ames, September 17, 1909; under old piece of wood; by H. E. E.

Family TARSONEMIDÆ.

TARSONEMUS Canestrini and Fanzago.

T. chthonaspivorus Ewing, Psyche, vol. XVIII, p. 40, (1911). From Ames. Specimen collected while studying oyster-shell scale from *Chionaspis* sp. on poplar; by H. E. E.

Family TYROGLYPHIDÆ.

GLYCIPHAGUS Hering.

G. spinipes Koch, Crust. Myr. Arach., fasc. 33, fig. 1, (1841). From Des Moines; on the skin of *Xanthocephalus xanthocephalus* Bonap; Keyes' collection, Iowa State College Museum.

TYROGLYPHUS Latreille.

T. lintneri Osborn, Science, vol. XXII, p. 360, (1893). From Manchester, September 20, 1915; on floor of barn; by G. W. Dunham.

T. siro Linn., Syst. Nat., ed. X, p. 616, (1758). Common cheese mite. From Ames, 1893; by H. Osborn.

RHIZOGLYPHUS Claparède.

R. phylloxerae Riley, 6th Missouri Rept., p. 52. (1874). From Eldora, May, 1916; on roots of alfalfa; by Ben Walker.

MONIEZIELLA Berlese.

M. angusta Banks, U. S. Dept. Agr. Bur. Ent. Tec. Ser. No. 13, p. 23, (1906). From Ames, July 25, 1910; on *Chionaspis* sp; by H. E. E.

M. entomophagus (Loboulbene), Bull. Soc. ent. France, p. 54, (1852). From Ames, July 23, 1910; feeding on egg shells and dead oyster-shell scale; by H. E. E.

Family ANALGESIDAE.

MEGNINIA Berlese.

M. tyrrelli Haller, Arch. Naturg., p. 55, (1882). Taken from bird skins in Keyes' collection, Iowa State College Museum, Ames; *Agelianus phoeniceus* Linn. Des Moines; *A. phoeniceus* Linn., *Piranga rubra* Linn., and *Spiza americana* Gmel. Iowa City; on *Hesperiphona vespertina vespertina* Coop.

M. pict-majoris Buckholtz, Bemerk. Gatt. Dermalechus, p. 43, (1869). Des Moines; taken from skin of *Dryobates pubescens* Linn., Keyes' collection, Iowa State College Museum.

PTERODECTES Robin.

P. muticus Banks, Proc. ent. Soc. Washington, vol. XI, p. 141, (1909). Des Moines; taken from skin of *Poocetetes gramineus* Gmel., Keyes' collection, Iowa State College Museum.

ANALGES Nitzsch.

A. cemidonotus Trouessart, Bull. Soc. Angers, vol. XXVIII, p. 29, (1899). Polk county, taken from the skin of *Euphagus carolinus* Müll, Keyes' collection, Iowa State College Museum.

A. passerinus Linn., Syst. Nat., ed. X, p. 616, (1758). Ames; taken from skin of *Agelianus phoeniceus* Linn., Keyes' collection, Iowa State College Museum.

Family SARCOPTIDÆ.

NOTOEDRES Railliet.

N. notoedres Mégnin, Paras., pp. 172-174, (1880). From Ames; summer of 1910; on rats; by H. E. E.

SARCOPTES Latreille.

S. suis Gerlach, Kratze und Raube, p. 137, (1857). The mange mite of swine. From Ames; by Dr. W. W. Dimock. According to Dr. Dimock found at other places in the state.

CNEMIDOCOPTES Fürstenberg.

C. mutans Robin, Bull. Soc. Moscow, vol. XXXIII, p. 184, (1860). Scaley leg of chicken. From Ames and other parts of the state; by Dr. W. W. Dimock.

PSOROPTES Gervais.

P. bovis (Gerlach), Kratze und Raube, p. 114, (1857). Psoroptes of

cattle. From Storm Lake, June 21, 1913; on cattle; by Dr. W. W. Dimock.

P. equi (Herring), N. Acta. Ac. Leop., XVIII, p. 585, (1838). Psoroptes of the horse. From Northwood; April 18, 1912; on horse; by Sabin Reese.

Family CYTOLEICHIDÆ.

LAMINOSIOPTES Mègnin.

L. crysticola Vizioli, Giorn. Anat. Fisiol., vol. I, p. 257, (1870). From Seymour; January 27, 1912; on pigeon; by Dr. W. W. Dimock. From Des Moines; August 30, December 7, 1912; on chicken; by Dr. W. W. Dimock. From Ames; January 30, 1913; on chicken; by Dr. W. W. Dimock. From Morehead; by Dr. W. W. Dimock.

CYTOLEICHUS Mègnin.

C. nudus Vizioli, Giorn. Anat. Fisiol., vol. I, p. 257, (1870). On chicken; by Dr. W. W. Dimock.

Family ERIOPHYDÆ.

ERIOPHYES Siebold.

E. pyri (Pagen.), Berh. Ver. Heidelberg, vol. I, p. 48, (1857). The pear leaf blister mite. From Ames; on Russian pear trees; by H. Osborn.

E. quadripes (Shimer), Tr. Amer. ent. Soc., vol. II, p. 319, (1869). The maple leaf gall mite. Generally distributed throughout the state. June and July, 1884; by H. Osborn.

The following unidentified species observed by Prof. H. Osborn are mentioned in Iowa Agr. Coll. Bull. 2, pp. 58-61, (1884). The ash gall mite. College grounds, Ames, June 16, 1884; the elm bud deformer, Ames, January, 1883; under bark of elm. The box elder mite; no locality given.

Family DEMODECIDÆ.

DEMODEX Owen.

D. canis Leydig, Ann. Nat. Hist., vol. XIII, p. 75, (1844). The hair follicle mite of the dog. From Ames; January 17, 1917, on dog; by Dr. W. W. Dimock.

D. phylloides Csokor, Oesterr. Vierteljahrsschrift. fur Veterinärkunde, vol. LI, p. 133, (1879). The hair follicle mite of swine. From Iowa on pigs shipped to Ames; fall of 1916; by Dr. W. W. Dimock.

CONCLUSION.

1. The American Acarina are quite distinct from those of Europe. The most important exceptions are among the ticks and itch mites.

2. The mite fauna of Iowa is in general very similar to that of Illinois, yet it is interesting to note that in the vicinity of Ames we find several of the northern forms. This is a little unusual because Ames is located fully a hundred miles south of the lower limit of the Transitional Life Zone.

3. No records of sheep scab or human scabies have been noted in recent years. Sheep scab at one time occurred in this state but due

to the efficient work of the United States Bureau of Animal Industry it apparently has been eradicated.

4. This list is a preliminary one and is in no case complete. It includes 74 species in 55 genera.

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